



**Euro Area Business Cycle Network**

## **2018 ANNUAL REPORT**

**1 JULY 2017 – 30 SEPTEMBER 2018**

EURO-AREA BUSINESS CYCLE NETWORK  
33 Great Sutton Street, London, EC1V 0DX

# For the **Annual Steering Committee Meeting 2018**

Hosted by the European Central Bank, Frankfurt

## CONTENTS

Contents .....	2
1. Introduction .....	3
Executive Group.....	3
The Scientific Committee .....	3
The Steering Committee.....	4
EABCN Institutional Members.....	4
Network Co-ordinator.....	5
Centre for Economic Policy Research (CEPR).....	5
2. Recent Events .....	6
Conferences .....	6
Training Schools .....	8
3. Future Events .....	11
Conferences .....	11
Training Schools .....	12
Additional Events .....	12
5. EABCN Website .....	13
6. Feedback on Training Schools.....	15
Practical DSGE Models - Frankfurt, September 2017 .....	15
Oil and the Macroeconomy – Florence, May 2018 .....	17
Heterogeneous Agent Models in Continuous Time with Monetary Policy Applications – Mannheim, June 2018.....	19
Term Structure Modelling – Helsinki, August 2018 .....	21
7. Event Programmes.....	24

## 1. INTRODUCTION

The Euro Area Business Cycle Network (EABCN) provides a forum for the better understanding of the business cycle in the euro-area, by linking academics and researchers in central banks and other policy institutions involved in its empirical analysis. The network was launched officially on 1 April 2002. The first EABCN Steering Committee meeting, hosted by Banca d'Italia in September 2002, ratified the network's organisational structure and approved its ability to spend network funds. The network currently consists of 21 institutional members and over 1,700 individual members. The number of individual members has increased by over 700 subscribers, since the last report. Its organisational structure consists of an Executive Group, a Scientific Committee and a Steering Committee.

### EXECUTIVE GROUP

The Executive Group consists of the Chair of the Steering Committee, the Chair of the Scientific Committee and a CEPR senior representative. The Executive Committee reports to the Steering Committee and approves deviations from the budget during the year. Major changes to the budget are communicated to the Steering Committee and approved by written procedure. The CEPR President is its representative on the Executive Group.

### THE SCIENTIFIC COMMITTEE

The Scientific Committee previously consisted of between four and seven people, each with a two-year term. It included academics and central bank representatives who would decide the direction of research for the network, based on current trends in the field. However, at the Steering Committee Meeting in 2016 it was noted that the Scientific Committee had not been active in recent years and should therefore be restructured so that it was made up of people active in the Network. The Scientific Committee now consists of the Chair, Vice-Chair and the EABCN Network Coordinator.

**Klaus Adam** is Chair of the Scientific Committee. He is Professor of Economics at Nuffield College, University of Oxford, Research Professor at the Deutsche Bundesbank, a CEPR Research Fellow and an Associate Editor of the Journal of Monetary Economics. Prior to joining Oxford, he held a Chair at Mannheim and was Principal Economist at the Monetary Policy Research Division of the ECB. Klaus obtained his Ph.D. from the European University Institute in Florence and has held Assistant Professorships at the University of Salerno and Goethe University in Frankfurt.

**Barbara Rossi** is Vice-Chair of the Scientific Committee. She is an ICREA Professor of Economics at UPF and Barcelona GSE Affiliated Professor. She was previously Associate Professor with tenure at the Department of Economics at Duke University, after earning her PhD from Princeton University. She is a CEPR Research Fellow, a member of the CEPR Business Cycle Dating Committee and a Director of the International Association of Applied Econometrics.

## THE STEERING COMMITTEE

The Steering Committee consists of representatives of all institutional members and meets annually to approve the EABCN budget and discuss the annual report.

**Luc Laeven** is the Chair of the Steering Committee. Dr Laeven is currently Director-General of DG Research at the ECB and has previously worked for the IMF and World Bank. He obtained his Ph.D. in Economics from the University of Amsterdam. His fields of interest are Macro-Finance, International Finance, Corporate Finance and Financial Intermediation.

## EABCN INSTITUTIONAL MEMBERS

EABCN currently has 21 institutional members, each with a single representative:

**Banca d'Italia**  
Giuseppe Parigi

**Banco de España**  
Gabriel Perez-Quiros

**Banco de Portugal**  
António Antunes

**Bank of England**  
Stephen Millard

**Bank of Finland**  
Juha Kilponen

**Bank of Slovenia**  
Arjana Brezigar-Masten

**Banque Centrale du Luxembourg**  
Jean-Pierre Schoder

**Banque de France**  
Yannick Kalantzis

**Banque Nationale de Belgique**  
Rafael Wouters

**Central Bank & FSA of Ireland**  
Fiona Farrelly

**Czech National Bank**  
Jan Brůha

**De Nederlandsche Bank**  
Peter van Els

**Deutsche Bundesbank**  
Emanuel Moench

**DG ECFIN**  
Werner Roeger

**European Central Bank**  
Luc Laeven

**Magyar Nemzeti Bank**  
Adam Reiff

**National Bank of Poland**  
Tomasz Łyziak

**Norges Bank**  
Knut Are Aastveit

**Oesterreichische Nationalbank**  
Doris Ritzberger-Gruenwald

**Schweizerische Nationalbank**  
Marcel Savioz

**Sveriges Riksbank**  
Jesper Lindé

## NETWORK CO-ORDINATOR

The Network Coordinator, **Elisa Faraglia**, works in collaboration with the Chair and Vice-Chair of the Scientific Committee and the relevant CEPR staff to facilitate planned network activities. The Network Coordinator works to ensure activities occur on schedule and to a high scientific standard. Dr Faraglia is a University Lecturer at King's College, University of Cambridge and a CEPR Research Affiliate.

## CENTRE FOR ECONOMIC POLICY RESEARCH (CEPR)

The Centre for Economic Policy Research acts as the Network's secretariat by handling administrative tasks such as receiving and dispersing funds; organising meetings; processing expense claims; keeping the accounts and maintaining the website. Some of these tasks are done in cooperation with the Network Coordinator. CEPR also produces the Annual Report which is circulated in advance of the annual Steering Committee Meeting. It reports on events, members, finances, the website and feedback.

Currently, the point of contact at CEPR for EABCN inquiries is **Monika Tsvetkova**, Projects Officer ([mtsvetkova@cepr.org](mailto:mtsvetkova@cepr.org)), unless stated otherwise (for example in relation to a specific conference or training school).

## 2. RECENT EVENTS

Due to the recent change in the timing of the Annual EABCN Steering Committee Meeting from September to December 2018, the reporting period of the Network will henceforth be from 1 October – 30 September, instead of 1 July – 30 June.

The current report therefore covers 15 months of activities, from 1 July 2017 to 30 September 2018. During this period the Network organised three major research conferences and four training schools. Information on these events is given below. Feedback from the training schools can be found in Section 6 and the programmes of all reported events are available at the end of this report.

## CONFERENCES

### INTERNATIONAL RESEARCH FORUM ON MONETARY POLICY

#### FEDERAL RESERVE BOARD WASHINGTON

WASHINGTON, 23-24 MARCH 2018

EABCN co-funded the tenth conference organised by the International Research Forum on Monetary Policy (IRFMP), which was held at the Federal Reserve Board in Washington. The purpose of the IRFMP is to promote the discussion of innovative research on theoretical and empirical macroeconomic issues with relevance for monetary policy.

The conference topics included:

- Factors accounting for very low global real interest rates;
- Whether central banks have adequate scope to ease policy in a recession, or whether a substantial shift in the monetary policy framework, e.g., a higher inflation target, is needed;
- The puzzlingly weak response of inflation and wage growth to resource slack in many countries, suggesting a possible breakdown of the Phillips Curve;
- The causes of the slowdown in productivity growth in industrial countries, and implications for economic growth, monetary policy, and fiscal sustainability;
- International spillovers from prospective normalisation in some industrial economies, including through exchange rates and capital flows;
- The role of monetary policy in containing financial stability risks;
- Model uncertainty, information frictions, or heterogeneous agents/beliefs.

Among the speakers were **Doug Irwin** (Dartmouth College), **Barry Eichengreen** (University of California, Berkeley & CEPR), and **Charles Bean** (London School of Economics & CEPR).

Attendees: 33

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## MEASURING THE EFFECTS OF UNCONVENTIONAL MONETARY

### MEASURING THE EFFECTS OF UNCONVENTIONAL MONETARY POLICY IN THE DATA: WHAT HAVE WE LEARNED?

POMPEU FABRA UNIVERSITY

BARCELONA, 27-28 APRIL 2018

The conference covered a broad range of themes related to the estimation of the effects of unconventional monetary policies in the data. There was a particular emphasis on methodological, econometric, and empirical aspects of the estimation of the effects of unconventional monetary policies, in particular of large-scale asset purchases (LSAP) and forward guidance, and their comparison with conventional monetary policy tools. The topics of the conference included:

- Measuring the effects of unconventional monetary policy on asset prices and the macroeconomy;
- Identifying the channels of transmission of unconventional monetary policy;
- Measuring the international spillovers and exchange rate effects of QE;
- The extent to which empirical results match what theory prescribes;
- The power of communication in unconventional (and conventional) times;
- Empirics of the policy mix in unconventional times;
- Empirical predictions on the consequences of exiting from unconventional policies.

Among the speakers, **Jordi Gali** (CREI, Universitat Pompeu Fabra & CEPR), **Refet Gurkaynak** (Bilkent University & CEPR), **Frank Smets** (European Central Bank & CEPR) and **Jonathan Wright** (Johns Hopkins). Presenters included **Fabio Canova** (BI Norwegian School, European University Institute & CEPR), **Cynthia Wu** (Chicago Booth), **Andrew Smith** (Federal Reserve Bank of Kansas City), **Philippe Andrade** (Banque de France), **Andreas Fischer** (Swiss National Bank & CEPR), **John Rogers** (Federal Reserve Board).

Applications: 109; Attendees: 39

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## ASSET PRICES AND THE MACROECONOMY

UNIVERSITY OF MANNHEIM

MANNHEIM, 31 AUGUST – 1 SEPTEMBER 2018

This second EABCN macro-finance conference covered innovative work advancing the knowledge of macro-financial linkages. The papers presented both theoretical and empirical contributions. The conference was supported by the Collaborative Research Center Transregio 224.

**Nicola Gennaioli** (Bocconi University & CEPR) and **Stefan Nagel** (Booth School of Business, University of Chicago & CEPR) gave keynote speeches.

Applications: 105; Attendees: 19

## TRAINING SCHOOLS

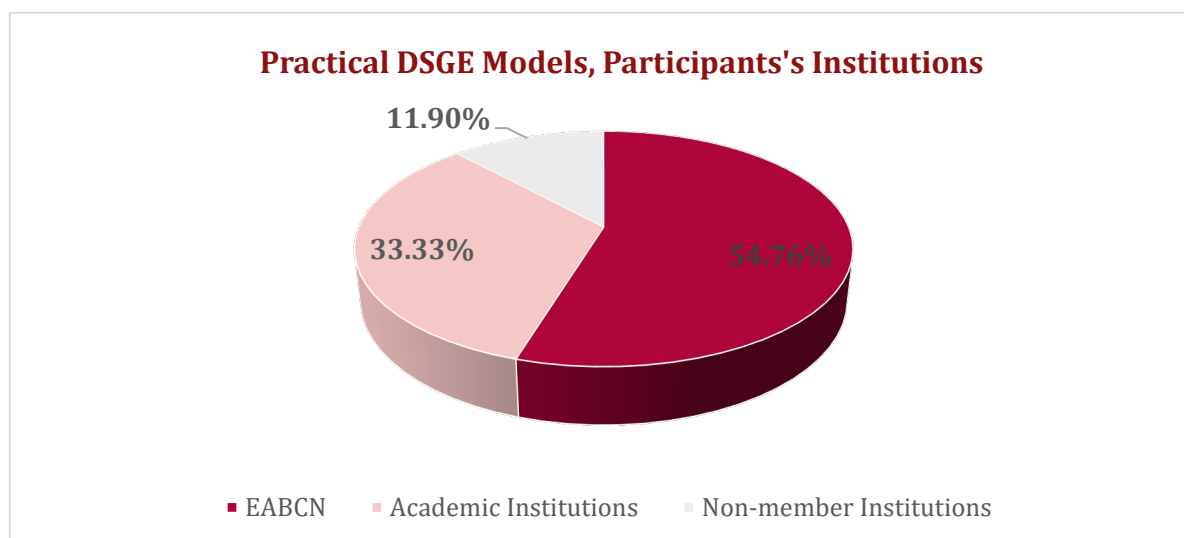
### PRACTICAL DSGE MODELS

DEUTSCHE BUNDESBANK

FRANKFURT, 13-15 SEPTEMBER 2017

The 27th EABCN training school consisted of a three-day course on 'Practical DSGE Models' taught by Professor **Fabio Canova** (BI Norwegian School of Management & CEPR). Most DSGE models used by policy institutions are generally of large-scale and little attention is generally paid to issues such as model mis-specification, model evaluation, model reduction and re-specification. This course offered suggestions for how these issues can be addressed in a unified way and thus make economic analysis more robust.

Applications: 76; Attendees: 42 (10 of which were PhD students)



### OIL AND THE MACROECONOMY

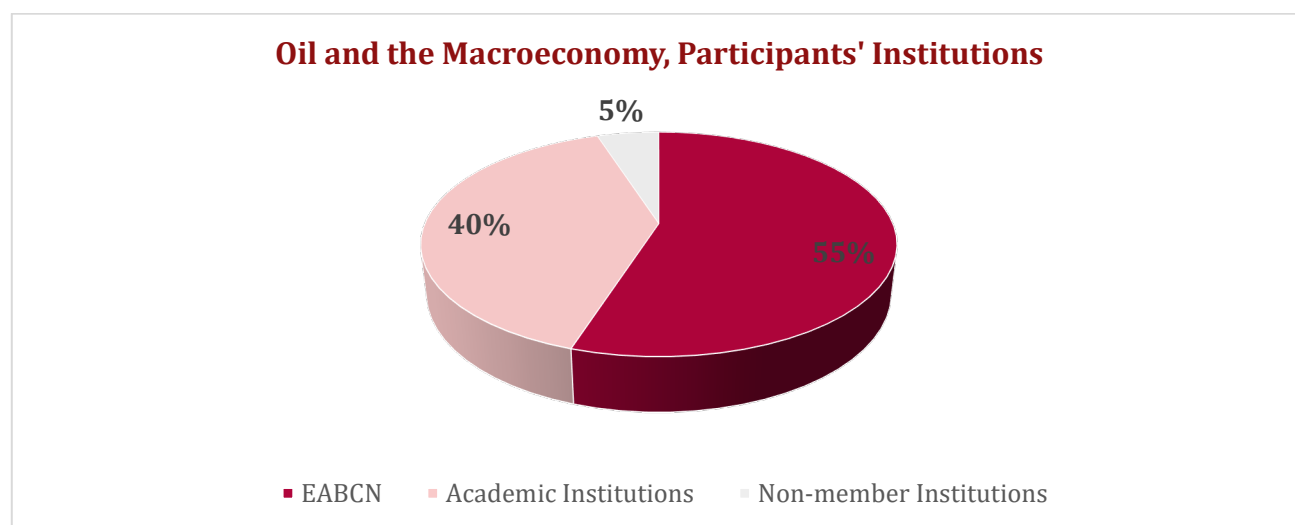
EUROPEAN UNIVERSITY INSTITUTE

FLORENCE, 28-30 MAY 2018

The 28th EABCN training school was led by Professor **Lutz Kilian** (University of Michigan & CEPR), who covered the determination of the price of oil in global markets and its relationship with macroeconomy (inflation, economic growth, financial markets). Both empirical approaches and theoretical models were discussed along with the institutional background. The course examined selected episodes such as the surges in the price of oil in the late 1970s and mid-2000s and the spikes in the price of oil in 1973/74 and 1990/91, as well as the oil price declines of 1986, 2008, and 2014-16. Special attention was given to the optimal monetary policy responses to oil price shocks, the possible role of asymmetries in the transmission of oil price shocks, and the implications of the shale oil revolution in the United States.



Applications: 62; Attendees: 40 (16 of which were PhD students)



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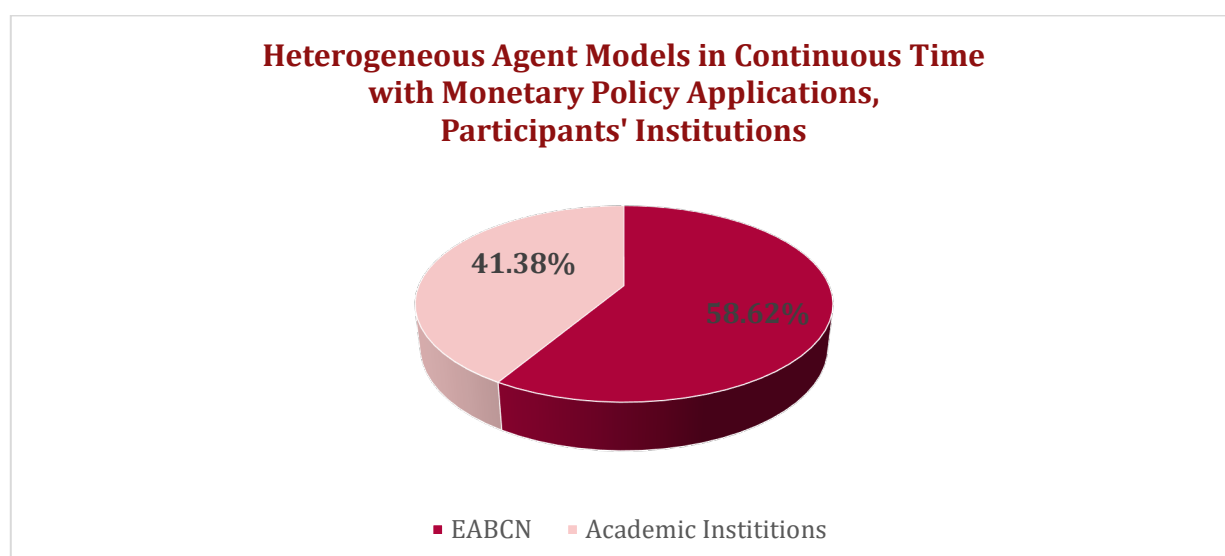
## HETEROGENEOUS AGENT MODELS IN CONTINUOUS TIME WITH MONETARY POLICY APPLICATIONS

UNIVERSITY OF MANNHEIM

MANNHEIM, 4-6 JUNE 2018

The 29th EABCN training school was a three-day course taught by Professor **Benjamin Moll** (University of Princeton & CEPR). The course developed tools for the analysis and numerical solution of heterogeneous agent models. Continuous-time methods have proven useful in this regard because, in continuous time, heterogeneous agent models can be conveniently solved as systems of partial differential equations. The emphasis of the training course was on providing the necessary background for participants to apply these tools in practice, with particular focus on numerical solution techniques using finite difference methods.

Applications: 89; Attendees: 58 (21 of which were PhD students)



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## TERM STRUCTURE MODELLING

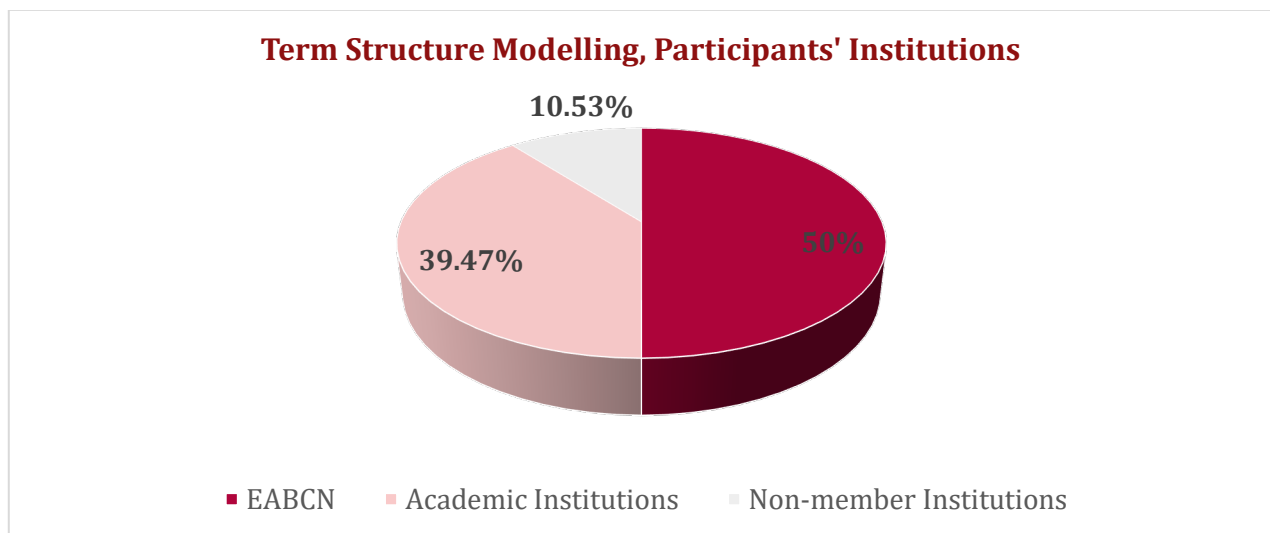
BANK OF FINLAND

HELSINKI, 27-29 AUGUST 2018

The 30th EABCN training school was taught by Professor **Kenneth Singleton** (Stanford University and NBER) and Professor **Anh Le** (Pennsylvania State University), and covered selected topics on the modelling of the term structure of interest rates, including reduced-form affine term structure models and equilibrium models of the interest rates in which agents are endowed with specific preferences.

The tutors discussed how to construct, implement and use the interest rate models for the analysis of risk premiums and the interpretation of macroeconomic events.

Applications: 49; Attendees: 38 (9 of which were PhD students)



### 3. FUTURE EVENTS

The Network is planning two conferences and three training schools for the 2018-2019 period. Further details for future events is given below and will be available on the EABCN website in due course.

#### CONFERENCES

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##### CHALLENGES IN UNDERSTANDING THE MONETARY TRANSMISSION MECHANISM

NARODOWY BANK POLSKI

WARSAW, 21-22 MARCH 2019

The conference will cover a broad range of themes related to challenges and advancements in understanding the monetary transmission mechanism. It seeks to bring together recent contributions in this area of research, including studies with strong theoretical basis as well as empirical papers.

**Olivier Coibion** (University of Texas and NBER), **Jordi Gali** (CREI, CEPR and NBER) and **Ricardo Reis** (London School of Economics, CEPR and NBER) are confirmed keynote speakers.

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##### ADVANCES IN BUSINESS CYCLE ANALYSIS

BANK OF SPAIN

MADRID, MAY 2019

Invited speakers include **Marc Giannoni** (Federal Reserve Bank of Dallas & CEPR) and **Lucrezia Reichlin** (London Business School & CEPR).

More information on this event will be available soon.

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##### NEW APPROACHES TO UNDERSTANDING BUSINESS CYCLES

LOCATION TBC

30-31 AUGUST 2019

Keynote speakers: **George-Marios Angeletos** (MIT), **Franck Portier** (UCL & CEPR, tbc)

More information on this event will be available soon.

## TRAINING SCHOOLS

### BAYESIAN APPROACHES TO THE ESTIMATION OF TIME-VARYING PARAMETER MODELS AND BIG DATA

POMPEU FABRA UNIVERSITY

BARCELONA, 5-7 JUNE 2019

This training school will be taught by **Domenico Giannone** (Federal Reserve Bank of New York & CEPR) and **Giorgio Primiceri** (Northwestern University & CEPR).

### SOLUTION METHODS FOR DISCRETE TIME HETEROGENEOUS AGENT MODELS AND MARKOV SWITCHING LINEAR MODELS (PROVISIONAL)

BANK OF ENGLAND

LONDON, 16-18 SEPTEMBER 2019

The training school will be taught by **Wouter Den Haan** (London School of Economics & CEPR) and **Pontus Rendahl** (University of Cambridge & CEPR).

### ECONOMIC FORECASTING

2020, EXACT DATE AND VENUE TBC

This training school will be thought by **Graham Elliott** (University of California, San Diego) and **Allan Timmerman** (University of California, San Diego & CEPR).

More details will follow soon.

## ADDITIONAL EVENTS

### ANNUAL EABCN STEERING COMMITTEE MEETING

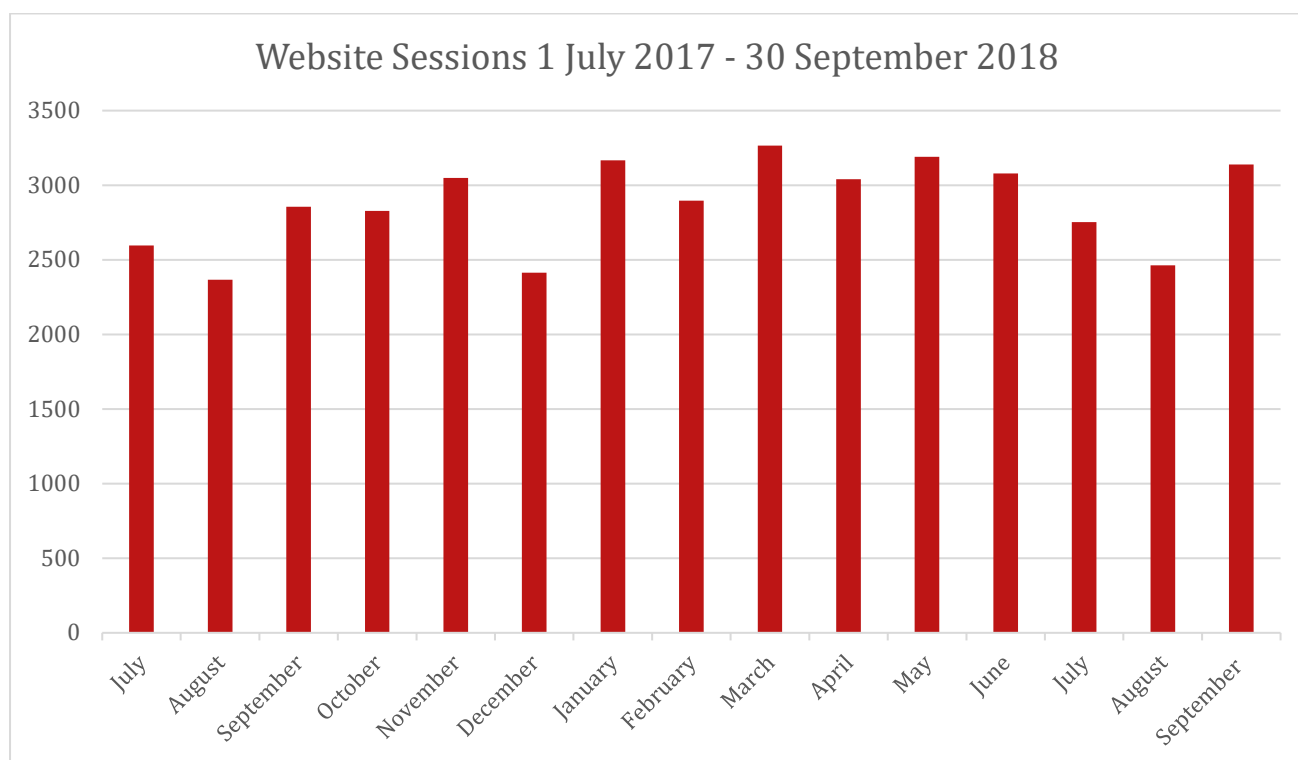
EUROPEAN CENTRAL BANK,

FRANKFURT, DECEMBER 2019

The annual Steering Committee for the EABCN network will be held at the ECB. Institutional members will discuss the previous year's activities and how to move forward in the next year.

## 5. EABCN WEBSITE

Data on the number and length of visits to the EABCN website is provided below. The data is gathered from EABCN's Google Analytics account and represents the period 1 July 2017 – 30 September 2018.



One 'session' is recorded as someone visiting the website regardless of the number of pages they view:

Total sessions 2017-18: 43,096 ↑

Total sessions 2016-17: 33,614

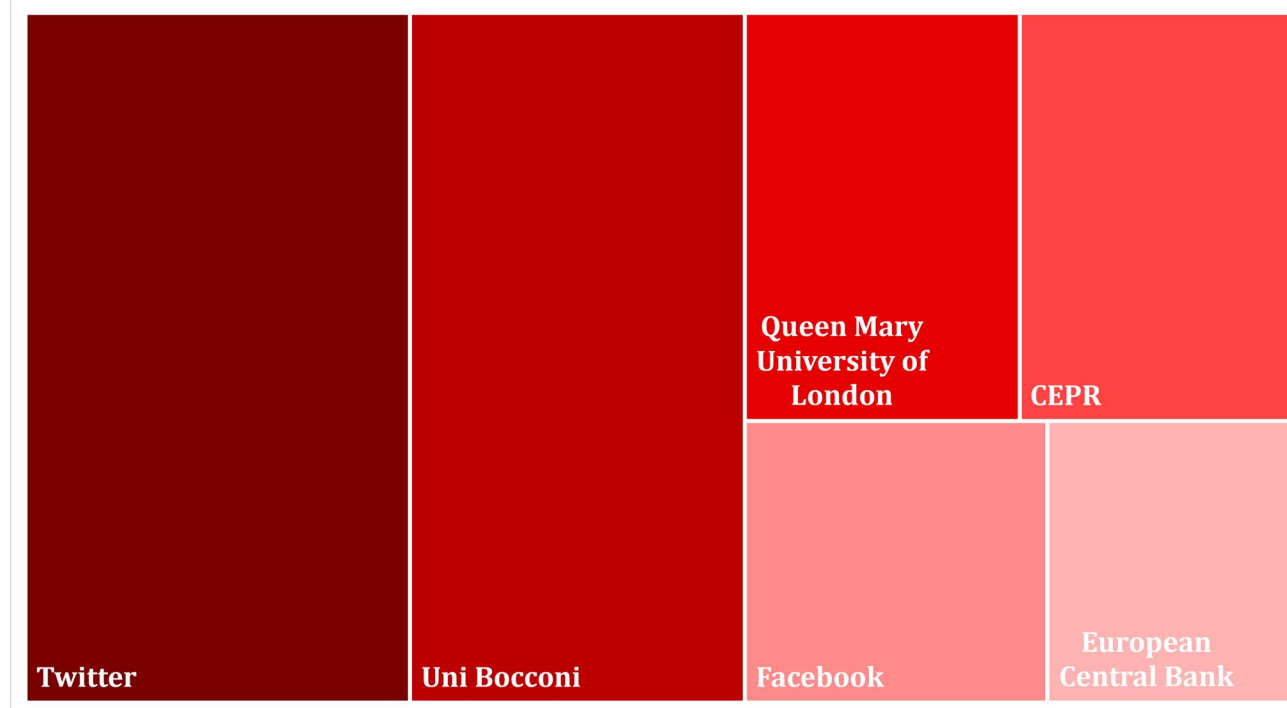
The total number of sessions compared to last year has increased by just over 20%, demonstrating the slow but steady increase in interest in the website.

### Key statistics

- Average visit length: 1 minute, 9 seconds
- Average pages per visit: 1.77
- Total visits: 43,096

The following diagram represents the top six sources of traffic for the EABCN website. The big sources have changed since last year, with Twitter now being the number one referral channel to the website. It has interestingly become the preferred social media platform over Facebook.

### Sources of traffic for EABCN Website 2017 - 2018



Feedback for the website from training schools can be found in Sections 6.

## 6. FEEDBACK ON TRAINING SCHOOLS

### PRACTICAL DSGE MODELS - FRANKFURT, SEPTEMBER 2017

Training School	Excellent	Good	Fair	Poor	Very poor	Total
Pre-meeting organisation	22	22	4			48
Local information provided	25	21	1			47
Meeting venue	34	12	3			49
Accommodation	13	20	4	3		40
Meals provided	20	22	7			49
Local organisation	25	22	1			48
Overall	24	23				47

Course Material	Very high	High	Neutral	Low	Very low	Total
<u>Relevance</u> of the course content to your personal needs	17	23	5			45
Awareness of academic level of the course	21	20	3			44
Awareness of the contents of the course	21	17	5	1		44
Lecturer's expertise	41	5				46

#### Website

Did you use the website created for this meeting?	
Yes	35
No	15

Did you receive sufficient information about the contents of the event from the EABCN website?	
Yes	39
No	2

**Please use the space below for any comments regarding the website.**

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Would have been useful to have a PDF drop in an e-mail as security prevented access.

<b>After the training school</b>	Very high	High	Neutral	Low	Very low	Total
Likelihood of using the course material in the future	23	23	3			49
Likelihood of attending further training schools	23	20	4			47
Likelihood of attending other EABCN events	18	22	4	1		45

**If you have selected "Neutral" or lower to any part of the above, please comment on your reasons to help us improve.**

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Depends on the topic if will attend again.

**If there is anything else you would like to comment on, please do so below.**

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Be provided with copies of the slides.

Would have been helpful to know that we had to print slides in advance and download MatLab . Also asked to bring in laptops at short notice. Would have been nice for organisers to introduce themselves at the start. At other events relevant documents are printed in advance for you.

Course material not currently directly related to day-to-day job, but still very interesting.

Less attendees and more lectures/sessions.

Event could have been condensed to take up less time.

<b>Please rank the following items by how useful they were to you</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Ranking</b>
Networking	9	12	22	<b>3</b>
Course material	27	8	8	<b>1</b>
Knowledge exchange with peers and lecturer	9	22	11	<b>2</b>



## OIL AND THE MACROECONOMY – FLORENCE, MAY 2018

<b>Training School</b>	Excellent	Good	Fair	Poor	Very poor	Total
Pre-meeting organisation	13	3				16
Local information provided	8	8				16
Meeting venue	12	4				16
Accommodation	6	7	3			16
Meals provided	7	8	1			16
Local organisation	10	5	1			16
Overall	11	5				16

<b>Course Material</b>	Very high	High	Neutral	Low	Very low	Total
Relevance of the course content to your personal needs	5	9	2			16
Awareness of academic level of the course	7	8	1			16
Awareness of the contents of the course	8	8				16
Lecturer's expertise	14	2				16

**What further features would you like to see included in future EABCN training schools? Please comment.**

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More Practical/ Interactive Sessions.  
Availability of online clip of the course.

**What subject areas do you think should be covered in the future in these training schools?**

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Oil & Gas cluster  
Oil Value Chain System  
Forecasting Macroaggregates  
Forecasting  
Monetary Policy  
Cross-border finance  
Transition of monetary policy  
Non-linear methods for VARs and DSGEs  
Big Data and Machine Learning

## Website

Did you use the website created for this meeting?	
Yes	16
No	0

Did you receive sufficient information about the contents of the event from the EABCN website?	
Yes	15
No	1

**Please use the space below for any comments regarding the website.**

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Mobile version of website.

<b>After the training school</b>	Very high	High	Neutral	Low	Very low	Total
Likelihood of using the course material in the future	9	7				16
Likelihood of attending further training schools	9	5	2			16
Likelihood of attending other EABCN events	8	4	4			16

**If there is anything else you would like to comment on, please do so below.**

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Would have been better if the organisers introduced themselves at the beginning and provided their availability for questions or requests.

<b>Please rank the following items by how useful they were to you</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Ranking</b>
Networking	4	6	6	<b>2</b>
Course material	8	5	3	<b>1</b>
Knowledge exchange with peers and lecturer	4	5	7	<b>3</b>

## HETEROGENEOUS AGENT MODELS IN CONTINUOUS TIME WITH MONETARY POLICY APPLICATIONS – MANNHEIM, JUNE 2018

<b>Training School</b>	Excellent	Good	Fair	Poor	Very poor	Total
Pre-meeting organisation	31	12	1	2		46
Local information provided	31	16	3			50
Meeting venue	20	14	11	5		50
Accommodation	10	16	7			33
Meals provided	20	28	2	1		51
Local organisation	30	17	2			49
Overall	22	24	2			48

<b>Course Material</b>	Very high	High	Neutral	Low	Very low	Total
Relevance of the course content to your personal needs	27	18	4			49
Awareness of academic level of the course	28	14	4			46
Awareness of the contents of the course	26	15	4	1		46
Lecturer's expertise	46	3				49
Quality	13	21	8	6		48

**What further features would you like to see included in future EABCN training schools? Please comment.**

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Smaller class sizes for TA sessions.

Lecture sessions and tutorials could be coordinated better. Tutorials could talk about the codes of models that were discussed in lectures.

Poster session to present primary research.

More practical hands-on training. Tutorials should be in smaller groups and concentrate on coding.

Rubin-Rowing approach to SUAR models identification.

**What subject areas do you think should be covered in the future in these training schools?**

Bayesian methods of DSGE models

Non-parametric econometric

Non-linear DSGE Models

Global Solution methods for DSGE models

Non-linearity in time series

Housing and Mortgages

Non-Linear Methods

Non-Linear solution methods for macro

Search and Match Models and Business Cycles

Machine Learning

National experiments and identification in macroeconomics

Heterogenous-Agent Models with Financial Frictions: A continuous-Drive Approach

**Website**

Did you use the website created for this meeting?	
Yes	40
No	10

Did you receive sufficient information about the contents of the event from the EABCN website?	
Yes	39
No	5

**Please use the space below for any comments regarding the website.**

An easier to remember URL.

<b>After the training school</b>	Very high	High	Neutral	Low	Very low	Total
Likelihood of using the course material in the future	27	19	2			48
Likelihood of attending further training schools	24	23				47
Likelihood of attending other EABCN events	21	21				42

**If there is anything else you would like to comment on, please do so below.**

TA session should be designed in an interactive way.

Mannheim was a good location.

Invite graduate students to dinner.

Excellent training school. TA session was too ambitious, would be better to cover less but more in depth.

TA session could have been more practical based to give a deeper understanding.

TA session and lecture could have been better connected.

TA session needed more structure.

<b>Please rank the following items by how useful they were to you</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Ranking</b>
Networking	1	8	37	<b>3</b>
Course material	40	8		<b>1</b>
Knowledge exchange with peers and lecturer	7	30	9	<b>2</b>

## TERM STRUCTURE MODELLING – HELSINKI, AUGUST 2018

<b>Training School</b>	Excellent	Good	Fair	Poor	Very poor	Total
Pre-meeting organisation	15	10				25
Local information provided	15	8	2			25
Meeting venue	19	4	2			25
Accommodation	4	9	4	1		18
Meals provided	9	9	5	1		24
Local organisation	17	7	1			25
Overall	16	7	2			25

Course Material	Very high	High	Neutral	Low	Very low	Total
Relevance of the course content to your personal needs	9	10	5	1		25
Awareness of academic level of the course	10	11	3	1		25
Awareness of the contents of the course	8	11	6			25
Lecturer's expertise	23	2				25

**What further features would you like to see included in future EABCN training schools? Please comment.**

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More applied parts (programming).

MatLab training session could have been longer and more interactive.

Would be useful if slides were provided. Sessions could be more interactive.

Provide slides and details of participants in advance.

Identification of useful background reading.

More focus on practices.

Handouts of lecture slides.

**What subject areas do you think should be covered in the future in these training schools?**

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Debt Management

Monetary Policy and Forecasting

Asset Pricing

Commodities

Should focus less on subject areas, and more on establishing the basic principle and applications

Macro and Monetary Theory

Methods/Skills

Applications using Bayesian Techniques

MatLab practical sessions at same level to lecture level (advanced applications)

Econometrics

**Website**

Did you use the website created for this meeting?	
Yes	21
No	4

Did you receive sufficient information about the contents of the event from the EABCN website?	
Yes	21
No	4

**Please use the space below for any comments regarding the website.**

Very help, informative and intuitive.

Was not up to date with the course materials, so not useful.

Would be helpful to upload presentation slides.

Not all material was linked to the website.

<b>After the training school</b>	Very high	High	Neutral	Low	Very low	Total
Likelihood of using the course material in the future	10	10	4	1		25
Likelihood of attending further training schools	13	10	1	1		25
Likelihood of attending other EABCN events	11	12	1	1		25

**If you have selected "Neutral" or lower to any part of the above, please comment on your reasons to help us improve.**

Not specifically my subject area, but still learnt a lot of generic skills.

Depends if I am personally selected to attend from own organisation.

**If there is anything else you would like to comment on, please do so below.**

Great experience - enjoyed listening to impressive knowledge of lecturers.

Excellent course. Top lecturers. Material was very good, only criticism was 3 days was short for such an extensive course.

Should decide how they want to segment participants and cover material. Is it a conference for experts or non-experts?

Would be useful to receive the presentation slides.

<b>Please rank the following items by how useful they were to you</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Ranking</b>
Networking	2	11	11	<b>2</b>
Course material	20	2	2	<b>1</b>
Knowledge exchange with peers and lecturer	2	11	11	<b>2</b>

## 7. EVENT PROGRAMMES

The programmes of the Network conferences and training schools that took place in the period 1 July 2017 - 30 September 2018 are attached below.





## **Tenth Conference of the International Research Forum on Monetary Policy Program**

March 23-24, 2018

Sponsored by the Euro Area Business Cycle Network (EABCN),  
the European Central Bank (ECB), the Federal Reserve Board (FRB), and  
the Georgetown Center for Economic Research (GCER) at Georgetown University.

### **Friday, March 23**

- 8:15 a.m.                      **Registration and Coffee (followed by brief welcoming remarks)**
- Session I: Monetary Policy Transmission and Bank Profitability**
- 9:00 a.m.                      **The “Reversal” Interest Rate: An Effective Lower Bound for Monetary Policy**  
**Markus Brunnermeier\*** (Princeton) and **Yann Koby** (Princeton)  
Discussant: **Emmanuel Farhi** (Harvard)
- 10:00 a.m.                      **Monetary Policy and Bank Profitability in a Low Interest Rate Environment**  
**Carlo Altavilla\*** (European Central Bank), **Miguel Boucinha** (European Central Bank) and **Jose-Luis Peydro** (Pompeu Fabra)  
Discussant: **Matteo Iacoviello** (Federal Reserve Board)
- 11:00 a.m.                      *Coffee*
- 11:30 a.m.                      **Banking on Deposits: Maturity Transformation without Interest Rate Risk**  
**Itamar Drechsler** (NYU-Stern), **Alexi Savov** (NYU-Stern) and **Philipp Schnabl\*** (NYU-Stern)  
Discussant: **John Driscoll** (Federal Reserve Board)
- 12:30 p.m.                      **Buffet Lunch**
- 2:00 p.m.                      **Forward Guidance without Common Knowledge**  
**George-Marios Angeletos\*** (MIT) and **Chen Lian** (MIT)  
Discussant: **Bartosz Mackowiak** (European Central Bank)

## **Session II: Frictions and their Economic Consequences**

3:00 p.m.

### **Productivity and Misallocation in General Equilibrium**

**David Baqaee\*** (London School of Economics) and **Emmanuel Farhi** (Harvard)

Discussant: **Gauti Eggertsson** (Brown)

4:00 p.m.

*Coffee*

4.30 p.m.

### **Panel Discussion – “Waning Support for Globalization: Economic Causes and Consequences”**

Moderator

**Caroline Freund**, World Bank

Panelists

**Charles Bean**, London School of Economics

**Barry Eichengreen**, University of California, Berkeley

**Doug Irwin**, Dartmouth

**Maury Obstfeld**, International Monetary Fund

7.00 p.m.

### **Dinner and Keynote Speech (at Georgetown Faculty Club)**

**Eric Rosengren**, President and CEO of the Federal Reserve Bank of Boston

## **Saturday March 24**

8.30 a.m.

### **Registration and Coffee**

## **Session II (continued): Frictions and their Economic Consequences**

9:00 a.m.

### **Real Keynesian Models and Sticky Prices**

**Paul Beaudry\*** (University of British Columbia) and **Franck Portier** (University College London)

Discussant: **Behzad Diba** (Georgetown)

10:00 a.m.

### **Financial Vulnerability and Monetary Policy**

**Tobias Adrian** (International Monetary Fund) and **Fernando Duarte\*** (FRB-NY)

Discussant: **Juliane Begenau** (Stanford-GSB)

11:00 a.m.

*Coffee*

## **Session III: Monetary Policy Uncertainty and its Effects**

11:30 a.m.

### **Monetary Policy Uncertainty**

**Lucas Husted** (Columbia University), **John Rogers** (Federal Reserve Board) and **Bo Sun \*** (Federal Reserve Board)

Discussant: **Michael Ehrmann** (European Central Bank)

12.30 p.m.	<b>Lunch with Keynote Speech</b>  <b>Philip Lane</b> , Governor of the Central Bank of Ireland and Member of the Governing Council of the European Central Bank  <b>Session IV: Monetary Policy with Heterogenous Agents</b>
1:45 p.m.	<b>Monetary Policy with Heterogenous Agents: Insights from TANK Models</b>  <b>Davide DeBortoli*</b> (CREI and Pompeu Fabra) and <b>Jordi Galí</b> (CREI and Pompeu Fabra) Discussant: <b>Jesper Lindé</b> (Riksbank)
2.45 p.m.	<b>Optimal Monetary Policy with Heterogenous Agents</b>  <b>Galo Nuno*</b> (Bank of Spain) and <b>Carlos Thomas</b> (Bank of Spain) Discussant: <b>Vincent Sterk</b> (University College London)
3.45 p.m.	<b>End of Conference</b>

\* Presenter

For each paper, the presenter has 25 minutes and the discussant 15 minutes, with a further 20 minutes allocated for general discussion.

## General Information

Conference organisers	Klaus Adam, University of Mannheim and EABCN Matthew Canzoneri, Georgetown University and GCER Günter Coenen, European Central Bank Christopher Erceg, Federal Reserve Board  E-mail: <a href="mailto:irfmp2018@frb.gov">irfmp2018@frb.gov</a>
Conference venue	Federal Reserve Board Conference sessions will be held at 1801 K Street, N.W., Washington, D.C.

EURO AREA BUSINESS CYCLE NETWORK (EABCN)

## Conference on " Measuring the Effects of Unconventional Monetary Policy in the Data: What Have We Learned?"

Barcelona, April 27-28, 2018

Hosted by Pompeu Fabra University, Barcelona

A Euro Area Business Cycle Network (EABCN) Conference

[www.eabcn.org](http://www.eabcn.org)

Organisers:

Matteo Ciccarelli (European Central Bank)

Refet S. Gürkaynak (Bilkent University and CEPR)

Barbara Rossi (ICREA-Pompeu Fabra University, Barcelona GSE, CREI and CEPR)

Oreste Tristani (European Central Bank)

### Programme

#### Friday 27 April 2018

- |             |   |
|-------------|---|
| 09:00-09:30 | <b>Registration and Welcome</b>   |
| 09:30-10:20 | <b>Invited talk: On the Empirical (Ir)Relevance of the Zero Lower Bound Constraint</b><br>*Jordi Galí (CREI, UPF, Barcelona GSE and CEPR)<br>Joint with Davide Debortoli (UPF, CREI, and Barcelona GSE) and Luca Gambetti (Universitat Autònoma de Barcelona and Barcelona GSE) |
| 10:20-11:00 | <b>Negative Interest Rate Policy and Yield Curve</b><br>* Fan Dora Xia (Bank for International Settlements)<br>Joint with Jing Cynthia Wu (University of Chicago)   |
| 11:00-11:30 | <b>Coffee Break</b>   |
| 11:30-12:10 | <b>Forward Guidance, Monetary Policy Uncertainty, and the Term Premium</b><br>*A. Lee Smith (Federal Reserve Bank of Kansas City)<br>Joint with Brent Bundick and Trenton Herriford (both Federal Reserve Bank of Kansas City)  |
| 12:10-12:50 | <b>Mending the broken link: Heterogeneous Lending Rates and Unconventional Monetary Policy</b><br>*Fabio Canova, (EUI, BI Norwegian School of Management and CEPR)<br>Joint with Carlo Altavilla and Matteo Ciccarelli (both European Central Bank)                             |
| 12:50-14:40 | <b>Lunch and Poster session 1</b>   |
| 14:40-15:20 | <b>Delphic and Odyssean Monetary Policy Shocks: Evidence from the Euro-Area</b><br>*Philippe Andrade (Banque de France)<br>Joint with Filippo Ferroni (Chicago Federal Reserve Bank)  |
| 15:20-16:00 | <b>Employment effects of unconventional monetary policy: Evidence from QE</b><br>*Tom Zimmermann (QuantCo)<br>Joint with Stephan Luck (Federal Reserve Board)   |

- 16:00-16:30 **Coffee Break**
- 16:30-17:10 **The Signalling Channel of Negative Interest Rates**  
 \*Oliver De Groot (European Central Bank and University of St Andrews)  
 Joint with Alex Haas (European Central Bank and DIW Berlin)
- 17:10-17:50 **The Speed of Exchange Rate Pass-Through**  
 \*Andreas Fischer (Swiss National Bank and CEPR)  
 Joint with Barthelemy Bonadio (University of Michigan) and Philip Saure (University of Mainz)
- 17:50-18:40 **Invited talk: Unconventional Monetary Policy and International Risk Premia**  
 \*Jonathan Wright (Johns Hopkins University)  
 Joint with John H Rogers and Chiara Scotti (both Federal Reserve System)

## Saturday April 28

- 09:00-9:50 **Invited Talk: Stock Market's Assessment of Monetary Policy Transmission: The Cash Flow Effect**  
 \*Refet S. Gürkaynak (Bilkent University and CEPR)  
 Joint with Sang Seok Lee (Bilkent University) and Gökçe Karasoy Can (Bilkent University and TCMB)
- 09:50-10:30 **Communications Breakdown: The Transmission of Different Types of ECB Policy Announcements**  
 \*John Rogers (Federal Reserve System)  
 Joint with Andrew Kane and Bo Sun (both Federal Reserve Board)
- 10:30-11:10 **Monetary Policy and Inequality under Labor Market Frictions and Capital-Skill Complementarity**  
 \*Gergo Motyovszki (EUI)  
 Joint with Juan Dolado and Evi Pappa (both EUI and CEPR)
- 11:10-11:30 **Coffee Break**
- 11:30-12:10 **The Effects of Conventional and Unconventional Monetary Policy: A New Identification Procedure**  
 \* Barbara Rossi (ICREA-Univ. Pompeu Fabra, Barcelona GSE, CREI and CEPR)  
 Joint with Atsushi Inoue (Vanderbilt University)
- 12:10-12:50 **The Dynamic Effects of Forward Guidance Shocks**  
 \*Brent Bundick (Federal Reserve Bank of Kansas City)  
 Joint with A. Lee Smith (Federal Reserve Bank of Kansas City)
- 12:50-14:40 **Lunch and Poster session 2**
- 14:40-15:20 **Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets**  
 \*Eric Swanson (University of California, Irvine)
- 15:20-16:10 **Invited Talk: Negative Interest Rates: Lessons from The Euro Area**  
 \*Frank Smets (European Central Bank and CEPR)

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\* Indicates the presenter.

**Invited talks are divided into 40 minutes for the presenter and 10 minutes for general discussion.  
 Other presentations are divided into 30 minutes for the presenter and 10 minutes for general discussion.**

**Monetary Policy Transmission to Mortgages in a Negative Interest Rate Environment**

\*Adrien Amzallag (European Central Bank)

Joint with Alessandro Calza (European Central Bank), Dimitris Georgarakos (European Central Bank and University of Leicester) and João Sousa (European Central Bank)

**Real effects of transferring bond market risk to the Federal Reserve through large-scale asset purchases**

\*Lasse Bork (Aalborg University)

**A Shadow Rate Without a Lower Bound Constraint**

\*Rafael Barros de Rezende (Sveriges Riksbank)

Joint with Annukka Ristiniemi (Sveriges Riksbank)

**Unconventional Monetary Policy and the Interest Rate Channel: Signalling and Portfolio Rebalancing**

\*Simon Lloyd (Bank of England)

**Does Central Bank Transparency and Communication Affect Financial and Macroeconomic Forecasts?**

\*Thomas Lustenberger (Swiss National Bank and University of Basel)

Joint with Enzo Rossi (Swiss National Bank and University of Zurich)

**The effect of FOMC dissent on financial markets**

\*Joao Madeira (University of York)

Joint with Carlos Madeira (Central Bank of Chile)

**Evaluating the Macroeconomic Effects of the ECB's Unconventional Monetary Policies**

\*Sarah Mouabbi (Banque de France)

Joint with Jean-Guillaume Sahuc (Banque de France)

**Rollover Risk and Bank Lending Behavior: Evidence from Unconventional Central Bank Liquidity**

\*Dominik Supera (University of Pennsylvania)

Joint with Martina Jasova (Princeton University & Charles University) and Caterina Mendicino (European Central Bank)

**TIPS Liquidity Premium and Quantitative Easing**

\*Laura Coroneo (University of York)

**On the Macroeconomic Performance of the Euro Area**

\*Matteo Fragetta (Università di Salerno)

Joint with Sergio Destefanis (Università di Salerno) and Emanuel Gasteiger (Freie Universität Berlin and Instituto Universitário de Lisboa)

**Uncovering the Heterogeneous Effects of ECB Unconventional Monetary Policies across Euro Area Countries**

\*Alessandro Galesi (Banco de España)

Joint with Pablo Burriel (Banco de España)

**Global Factors, International Spillovers, and the Term Structure of Interest Rates: New Evidence for Asian Countries**

\*Chiara Guerello (LUISS Guido Carli)

Joint with Marco Tronzano (Università di Genova)

**The Effects of ECB's Asset Purchase Announcements on Euro Area Government Bond Yields**

\*Frederik Neugebauer (WHU - Otto Beisheim School of Management)

**Quantitative Easing and the Price-Liquidity Trade-Off**

\*Annukka Ristiniemi (Sveriges Riksbank)

Joint with Marien Ferdinandusse and Maximilian Freier (both European Central Bank)

**Proxy-SVAR as a Bridge for Identification with Mixed Frequency Data**

\*Alejandro Vicondoa (Pontificia Universidad Católica de Chile)

Joint with Andrea Gazzani (Banca d'Italia)

2<sup>nd</sup> University of Mannheim, CRC Transregio 224 and Euro Area Business Cycle Network

Conference on

## “Asset Prices and the Macro Economy”

Mannheim, Germany, August 31 – September 01, 2018

**Venue:** University of Mannheim, Palace, Fuchs-Petrolub-Festsaal (O138)

### Organisers:

Klaus Adam (University of Mannheim, CEPR and EABCN)

Elisa Faraglia (Cambridge University, CEPR and EABCN)

Isabel Schnabel (University of Bonn, CEPR)

### Friday, August 31

08:00-08:30 *Registration and Welcome Coffee*

08:30-09:10 *“Accounting for Macro-Finance Trends”*

**Francois Gourio** (Federal Reserve Bank of Chicago) joint with Emmanuel Farhi

09:10-09:50 *“The International Medium of Exchange”*

**Rosen Valchev** (Boston College) joint with Ryan Chahrour

09:50-10:10 *Coffee Break*

10:10-10:50 *“Beauty Contests and the Term Structure”*

**Martin Ellison** (University of Oxford and CEPR) joint with Andreas Tischbirek

10:50-11:30 *“The Financial Transmission of Housing Bubbles: Evidence from Spain”*

**Tom Schmitz** (Bocconi University) joint with Alberto Martin , Enrique Moral-Benito

11:30-11:50 *Coffee Break*

11:50-12:50 **Keynote talk:** *“Instability From Beliefs”*

**Nicola Gennaioli** (Bocconi University and CEPR)

12:50-14:00 *Buffet Lunch*



- 14:00-14:40 *"Human Frictions to the Transmission of Economic Policy"*  
**Michael Weber** (University of Chicago) joint with Francesco D' Acunto, Daniel Hoang ,  
 Maritta Paloviita
- 14:40-15:20 *"Oil Volatility Risk"*  
**Steffen Hitzemann** (Rutgers Business School) joint with Lin Gao, Ivan Shaliastovich,  
 Lai Xu
- 15:20-15:40 *Coffee Break*
- 15:40-16:20 *"Reflexivity in Credit Markets"*  
**Lawrence Jin** (California Institute of Technology) joint with Robin Greenwood ,  
 Samuel G. Hanson
- 16:20-17:00 *"Stock Price Cycles and Business Cycles"*  
**Klaus Adam** (University of Mannheim and CEPR) and Sebastian Merkel (University of  
 Mannheim)
- 19:00 *Dinner (by invitation only)*

## Saturday, September 01

- 09:00-10:00 **Keynote talk: "Asset Pricing with Fading Memory"**  
**Stefan Nagel** (University of Chicago and CEPR)
- 10:00-10:30 *Coffee Break*
- 10:30-11:10 *"Asset Price Learning And Optimal Monetary Policy"*  
**Fabian Winkler** (Federal Reserve Board) joint with Colin Caines
- 11:10-11:50 *"Central Bank Balance Sheet Policies without Rational Expectations"*  
**Luigi Iovino** (Bocconi University and CEPR) joint with Dimitriy Sergeyev
- 11:50-12:30 *"(Un)expected Monetary Policy Shocks and Term Premia"*  
**Alexander Meyer-Gohde** (Goethe-Universität Frankfurt) joint with Martin Kliem
- 12:30-13:30 *Buffet Lunch*
- 13:30-14:10 *"Labor Income Risk, Asset Prices, and Unemployment Cyclicalilty"*  
**Pontus Rendahl** (University of Cambridge and CEPR) joint with Renato Faccini
- 14:10-14:50 *"Risk-Adjusted Capital Allocation and Misallocation"*  
**Lukas Schmid** (Duke University and CEPR) joint with Joel M. David, David Zeke
- 16:00 *Wine-tasting excursion and dinner in the Palatinate (by invitation only)*

Presentations are divided into 30 minutes for the presenter and 10 minutes for general discussion.  
 Keynote presentations are divided into 50 minutes for presenter and 10 minutes for general discussion.

## **Euro Area Business Cycle Network Training School**

### **“Practical DSGE Models”**

**By**

**Fabio Canova**

(BI Norwegian School of Management, EUI and CEPR)

**Venue: Room “Kuppelsaal”, Hauptverwaltung Hessen, Deutsche Bundesbank,  
Taunusanlage 5, 60329 Frankfurt am Main, Germany**

**13-15 September 2017**

### **Schedule**

#### **WEDNESDAY 13 SEPTEMBER**

**09.00-10.45 Lecture 1 - Refresher of Bayesian DSGE and Identification Issues**

10.45-11.15 Coffee Break

**11.15-12.45 Lecture 2 - DSGE-VAR and Data Selection**

12.45-14.00 Lunch

**14.00-15.30 Lecture 3 - Measurement Error Data Rich DSGE and Dealing with Trends**

15.30-16.00 Coffee Break

**16.00-17.15 Practice 1 – Practical session with Programme Illustrations (MATLAB)**

18.30 Dinner @ Alt-Oberurseler Brauhaus, Ackergasse 13, 61440 Oberursel

#### **THURSDAY 14 SEPTEMBER**

**09.00-10.30 Lecture 4 - Prior Elicitation and Prior Predictive Analysis**

10.30-11.00 Coffee Break

**11.30-12.30 Lecture 5 - Time varying DSGEs**

12.30-14.00 Lunch

**14.00-15.30 Lecture 6 - Estimating DSGEs with Structural Breaks and Occasionally Binding Constraints**

15.30-16.00 Coffee Break

**16.00-17.30 Practice 2 - Practical session with Programme Illustrations (MATLAB)**

**FRIDAY 15 SEPTEMBER**

**09.00-10.30 Lecture 7 - Estimating Higher Order Pruned Models. Dealing with Misspecification**

10.30-11.00 Coffee Break

**11.30-12.45 Lecture 8 - Pruning Large Scale Models.**

12.45-13.45 Lunch

**13.45-14.45 Practice 3 - Practical session with Programme Illustrations (MATLAB)**

## **Euro Area Business Cycle Network Training School**

### **“Oil and the Macroeconomy”**

**By**

**Lutz Kilian**

(University of Michigan and CEPR)

**Venue: *Teatro*, Badia Fiesolona, European University Institute**

**Via dei Roccettini 9 - San Domenico di Fiesole, Firenze (Florence)**

**28-30 May 2018**

### **Schedule**

#### **MONDAY 28 MAY**

**09.00-10.45 Lecture 1: How Exogenous Oil Price Shocks Affect the Economy: Theory**

10.45-11.15 Coffee Break

**11.15-12.45 Lecture 2: How Exogenous Oil Price Shocks Affect the Economy: Empirics**

12.45-14.15 Lunch

**14.15-15.30 Lecture 3: Determinants of Historical Oil Price Fluctuations**

15.30-16.00 Coffee break

**16.00-17.15 Practice 1: Estimating and Evaluating Oil Market VAR Models**

20.00 Dinner

#### **TUESDAY 29 MAY**

**09.00-10.45 Lecture 4: How Endogenous Oil Price Shocks Affect the Economy: Empirics**

10.45-11.15 Coffee Break

**11.15-12.45 Lecture 5: The Role of Asymmetries and Nonlinearities in the Transmission of Oil Price Shocks**

12.45-14.15 Lunch

**14.15-15.30 Lecture 6: Oil Prices, Inflation, and Monetary Policy Responses**

15.30-16.00 Coffee break

**16.00-17.15 Practice 2: Distributed Lag Models and Extended Oil Market Models**

**09.00-10.30 Lecture 7: The Shale Oil Revolution**

10.30-11.00 Coffee Break

**11.00-12.45 Lecture 8: Case Studies: The Effects of Lower Oil Prices in 1986/87 and 2014/15**

12.45-13.45 Lunch

**13.45-14.45 Lecture 9: Questions and Answers Session**

*NB. Topics may spill over from one session to the next.*

**ABOUT THE INSTRUCTOR**

Lutz Kilian is Professor of Economics at the University of Michigan, a research fellow at the CEPR, the Center for Financial Studies, CESifo, the Price Institute, and the Euro Area Business Cycle Network, a member of the research council of J.P Morgan Center of Commodities, and an officer of CEBRA. He received his Ph.D. in Economics from the University of Pennsylvania in 1996 and his M.A. in Development Banking from The American University in 1988. He joined the faculty at Michigan in 1996.

Prior to his Ph.D., he worked for the research department of the Inter-American Development Bank in Washington, DC. During 2001-03 he served as an adviser to the European Central Bank in Frankfurt/M., Germany. Professor Kilian has been a research visitor at the Federal Reserve Board, the European Central Bank, and the International Monetary Fund. He has also been a consultant for the International Monetary Fund, the Inter-American Development Bank, the World Trade Organization, the European Central Bank, the Bank of Canada, the European Parliament, and the U.S. Energy Information Administration, among others.

Professor Kilian has published over 90 articles and has been listed among the top 1% of most influential economists worldwide three years running by Thompson-Reuters. His work has appeared in leading general interest and field journals in economics and statistics. He is also the author of a recent textbook with Helmut Lütkepohl on Structural Vector Autoregressive Analysis (Cambridge University Press, 2017). His research interests include time series econometrics, empirical macroeconomics, and energy economics. He is one of the leading experts worldwide on oil markets.

## **Euro Area Business Cycle Network Training School**

### **“Heterogeneous Agent Models in Continuous Time with Monetary Policy Applications”**

**By**

**Benjamin Moll**

(Princeton University, NBER and CEPR)

**Venue:** Room: EO150, University of Mannheim, Schloss, D-68131 Mannheim

**4-6 June 2018**

### **Schedule**

#### **MONDAY 4 JUNE**

- |                    |  |
|--------------------|--|
| <b>08.15-09.00</b> | <b>Registration and Welcome Coffee</b>   |
| <b>09.00-10.30</b> | <b>Session 1:</b> Introduction and Overview, Hamilton-Jacobi-Bellman (HJB) equations   |
| <b>10.30-11.00</b> | <b>Coffee break</b>  |
| <b>11.00-12.30</b> | <b>Session 2:</b> numerical solution of HJB equation, continuous-time stochastic processes, Kolmogorov Forward (KF) equations                      |
| <b>12.30-14.00</b> | <b>Lunch</b>   |
| <b>14.00-15.30</b> | <b>Tutorial 1:</b> derivation of HJB equation from discrete-time Bellman equation, Matlab codes for the numerical solution of HJB and KF equations |

#### **TUESDAY 5 JUNE**

- |                    |  |
|--------------------|--|
| <b>09.00-10.30</b> | <b>Session 3:</b> Continuous-time version of workhorse heterogeneous-agent (Achdou et al)  |
| <b>10.30-11.00</b> | <b>Coffee break</b>  |
| <b>11.00-12.30</b> | <b>Session 4:</b> HANK: Heterogeneous Agent New Keynesian models (Kaplan-Moll-Violante)  |
| <b>12.30-14.00</b> | <b>Lunch</b>   |
| <b>14.00-15.30</b> | <b>Tutorial 2:</b> Newton method for transition dynamics and MIT shocks, numerical solution of advanced problems (e.g. non-convexities, stopping time problems, multiple assets) |

#### **WEDNESDAY 6 JUNE**

- |                    |   |
|--------------------|---|
| <b>09.00-10.30</b> | <b>Session 5:</b> Perturbation method for heterogeneous-agent models with aggregate shocks (Ahn-Kaplan-Moll-Winberry-Wolf, continuous-time Reiter method) |
| <b>10.30-11.00</b> | <b>Coffee break</b>   |
| <b>11.00-12.30</b> | <b>Session 6:</b> Application to one-asset HANK model, model reduction  |
| <b>12.30-14.00</b> | <b>Lunch</b>  |
| <b>14.00-15.30</b> | <b>Tutorial 3:</b> Automatic differentiation, Bayesian estimation, discrete-time Reiter method  |

## Euro Area Business Cycle Network Training School

### “Term Structure Modelling”

By

**Kenneth Singleton** (Stanford University) & **Anh Le** (Pennsylvania State University)

**Venue:** Room: Bank of Finland Auditorium, Rauhankatu 19, 00170 Helsinki

27-29 August 2018

### Schedule

#### MONDAY 27 AUGUST

- 08.15-09.00** Registration and Welcome
- 09.00-10.30** Session 1(L): Properties of Term Structures of Bond Yields
- 10.30-11.00 Break
- 11.00-12.30** Session 2(S): Reduced-form Affine Term Structure Models
- 12.30-14.00 Lunch
- 14.00-15.30** Session 3(S): Macro-Finance Models of Risks Premiums: Part 1
- 15:30 – 16:00 Break
- 16:00 – 17:15** Practice 1(L): Empirical implementation of a pure latent Gaussian TS model
- 18:30** Dinner at the Bank of Finland Banqueting Hall

#### TUESDAY 28 AUGUST

- 09.00-10.30** Session 4(S): Macro-Finance Models of Risks Premiums: Part 2
- 10.30-11.00 Break
- 11.00-12.30** Session 5(S): Equilibrium Models of the Term Structure
- 12.30-14.00 Lunch
- 14.00-15.30** Session 6(S): Learning in Bond Markets
- 15:30 – 16:00 Break
- 16:00 – 17:30** Practice 2(L): Implementing a Gaussian TS model with macro variables

**WEDNESDAY 29 AUGUST**

**09.00-10.30      Session 7(L): Challenges in Fitting Means and Variances in Term Structure Models**

10.30-11.00      Break

**11.00-12.30      Session 8(L): Time-Varying Volatility and the Pricing of Bond Options**

12:30 – 1:30      Lunch

**1:30 – 2:30      Practice 3(L): Constructing and implementing a ZLB-consistent Quadratic-Affine model**